

Section	Procedure Number
<b>Transportation</b>	<b>RCJTC AP.01.91</b>
Procedure Title	
<b>Ridership, Run &amp; Route Review</b>	
Date	Revised
<b>March 7, 2016</b>	<b>November 21, 2016</b>

**RIDERSHIP**

***What is ridership?***

Ridership is the number of students that can be transported on the bus, based on the vehicle capacity and the weighted student load. If the capacity equals 72 and the assigned weighted load equals 72 the vehicle is loaded to capacity (100%).

***What is a weighted load?***

A weighted load is the number of spaces, based on grade, each student occupies. For example, students in grades 7-12 have a weighted load factor of 1.5; therefore 48 students would be assigned to ride a 72 passenger vehicle (2 per seat). A student in grade one has a weighted load factor of one; therefore 72 grade one students could be assigned to ride a bus.

RCJTC uses the following student weightings:

<b>Grade</b>	<b>Weighting</b>
JK – 6	1.0
7 – 12	1.50

***Information required for analysis:***

- ✓ Accurate student data – name, address, grade, school of attendance, program
- ✓ Accurate boundaries – timely information received regarding all boundary changes including new school openings/closing
- ✓ Grandfathering approvals
- ✓ Ridership trends by neighbourhood (based on actual ridership data received from bus drivers)
- ✓ Student needs

***...Providing safe, efficient, effective transportation to our students***

## **RUNS**

### ***What is a run?***

A Bus Run is a bus making several stops to pick up or drop off students for a school or schools. A run is one component of a route. A run can be comprised of more than one school. A series of bus runs in both the morning and afternoon makes up a bus route.

### ***The following must be reviewed and analyzed prior to performing run optimization when in the run planning phase:***

- ✓ Length – both time and distance review based on existing policies and best practices
- ✓ Sharing between schools/programs and/or boards – Is this feasible?
- ✓ Transferring of students – is this feasible?; are there other options?
- ✓ Road restrictions (construction, road closures, right side bus stops, railway crossing locations, bridges, vehicle restriction (weight, length))
- ✓ Vehicle type – is a large bus required or will a mini bus suffice? (has right sized)
- ✓ Specific student needs (i.e. physical needs, lone rider, riding with EA, home stop is corner stop)
- ✓ Bus loading zone factors (i.e. capacity, need for waves, location on street, in school yard)
- ✓ Loading time (number of students at stop, elementary vs. secondary, each schools unique loading procedure, physical needs of student)
- ✓ Bus stop analysis (refer to *Procedure for Establishing Bus Stops*)
  - Cleanse bus stop data (remove zero load counts, where required)
  - Distance between stops
  - Number of students at stops (impact on homeowners, student behaviours)
  - Distance to stop for students (Is it centralized to all students and following policy)
  - Bus stop location – busy or controlled intersection, traffic flow, right side, number of students crossing, bus loading zone at school conflicts
- ✓ Load analysis (based on weighted student load and ridership trends)
  - Need to add run due to growth?
  - Need to reduce runs due to declining ridership or low ridership (due to parent preference to drive – societal changes)?
  - Review of enrolment data and expected changes such as growth over the upcoming school year to minimize the impact on students
  - Awareness of utilization patterns both morning & afternoon by area and grade (obtained through driver surveys of actual ridership)

## **GUIDELINES**

The following criteria have been established and will be considered when reviewing and creating stops, runs and routes.

- ✓ \*Home to School Distance Criteria:

- 0.5 kilometers – grades JK & SK
- 1.6 kilometers – grades 1-6
- 1.6 kilometers – Grades 7-12 (rural)
- 2.5 kilometers – grades 7-12 (urban/developed)\*  
\*usually posted 60 km/hour or less
- ✓ \*Distance to Bus Stop:
  - 0.5 kilometers – grades JK & SK
  - 1.6 kilometers – grades 1-6
  - 1.6 kilometers – grades 7-12 (rural)
  - 2.5 kilometers – grades 7-12 (urban/developed)\*  
\*usually posted 60 km/hour or less
- ✓ \*Amount of time spent aboard the vehicle by students shall not normally exceed:
  - 60 minutes – grades JK-6
  - 75 minutes – grades 7-12
- ✓ \*Arrival/Departure window:
  - 15 minutes – grades JK-8
  - 15 minutes – grades 9-12

5 minutes load/unload  
10 minutes load/unload

\*Note – this criteria has been set as defaults within BusPlanner software.

## **ROUTES**

### ***What is a route?***

A Route is a group of Runs placed together to maximize route efficiencies. One route will service one or more schools in the morning and in the afternoon but not necessarily the same schools morning and afternoon.

### ***The following must be reviewed and analyzed prior to performing route optimization when in the route planning phase:***

- ✓ School hours analysis including school hour requests
- ✓ Supervision windows at schools
- ✓ School hour windows based on Board Policies
- ✓ Number of buses at a school
- ✓ Number of Operators at a school
- ✓ Programs at school and catchment area for those programs
- ✓ Route mirroring (Advantages = minimize PA day costs, customer service - continuity for students – same driver morning and afternoon)
- ✓ Run type – tied to vehicle type
- ✓ Vehicle type – bus, mini bus, van , wheelchair vehicle
- ✓ Total route length
- ✓ Deadhead and slack time
- ✓ Start/End points of runs to minimize deadhead travel and maximize efficiencies
- ✓ Slack time reviewed and if required added to address adverse weather conditions

- ✓ Review run combinations to minimize travel in high traffic/volume areas

#### ***Routes are reviewed for:***

- ✓ Operator contracts and financial impact using the Route Cost Analyzer
- ✓ Customer service (students, schools, operators)
- ✓ Operator depot location to reduce fuel and deadhead (minimize travel time to first pick up)
- ✓ Gaps in timeline – seek opportunities to reduce travel time for students by splitting runs, we must try to reduce deadhead travel time and distance

### **ROUTE ALLOCATION**

#### **Overview**

Unless there are significant service concerns that have not been resolved all routes will be allocated annually in accordance with contracting procurement procedures.

### **ANNUAL RUN/ROUTE PLANNING SCHEDULE**

#### **Overview**

Outlined below is a monthly route/run planning schedule. These tasks are performed during the school year in conjunction with the regular day to day duties which take priority over the annual run/route planning functions.

#### ***September***

- ✓ Document any run/route issues based on feedback from operators/schools/parents,
- ✓ Investigate and resolve, where required.

#### ***October***

- ✓ Route Sheets are sent to bus companies for drivers to complete on October 31 (drivers are required to confirm bus stop times, number of students using the bus stop, which stops are not being used as well as provide any feedback on bus stop locations and bus stop order).
- ✓ Review/ remove bus stops not required

#### ***November – January***

- ✓ Digital map import and update
  - Obtain digital map from the County of Renfrew, including street and parcel fabric to be uploaded into the BusPlanner map data program
- ✓ Bus runs updated as per information received through the confirmation of Route Sheets as well as GPS data

- Review /remove bus stops not required
- Times updated
- Revised runs sent to schools
- Review Route Sheets
- Compare Planned vs Actual in GPS
- ✓ Undertake an efficiency review of bus runs and routes and if practical consolidate runs/routes
- ✓ Undertake a review of taxi students with the possibility of incorporating onto existing contracted buses
- ✓ Commence initial review of boards accommodation plan and enrolment projections if required for upcoming school year
- ✓ Explore potential scenarios for effectiveness and efficiency (cost savings, improved customer service), e.g. route/run sharing, expanding school hour window studies
- ✓ Provide financial analysis as required to school boards for accommodation reviews, special education class placements, policy changes.

## **February**

- ✓ Create next years' transportation planning database (after all route sheets reviewed and runs/routes updated)
- ✓ Add/ Delete schools, grades, programs, attendance and transportation boundaries
- ✓ Update schools - change day, type and schedule
- ✓ Review all grandfathered boundaries and roll out expired grades
- ✓ Review all exception boundaries (less than distance criteria in board policy)
  - Determine which exception boundaries to be eliminated (create student list)
- ✓ Begin working on boundary changes (if known) and updating transportation boundaries accordingly
- ✓ Review bus stop locations, including a review of the number of students assigned
- ✓ Delete stops for special ed students who are graduating from their current school
- ✓ Review loads on runs – consolidate runs with low ridership, add runs where necessary, e.g. growth, boundary change
- ✓ School hour requests received by RCJTC (deadline is the end of January)
- ✓ Remove temporary seat assignments and information

## **March**

- ✓ Roll over students to next grade and next school
  - Review special ed students individually for future placements
  - Create groups for students with special circumstances i.e. Grandfathered, gr 12's. Must be met???
- ✓ Continue to update planning database with boundary changes as approvals occur
- ✓ Monitor growth areas and future enrolment projections for all schools/boards
- ✓ Begin weekly downloads of pre-registered students (after March Break)
- ✓ Continue review of bus stop loads, bus run loads, etc. based on pre-registered student

information

- ✓ Remove bus stops for students who have moved/graduated
- ✓ Add bus stops for new students ensuring distance to stop policy is respected
- ✓ Start Special Education run/route planning

### **April**

- ✓ Commence school hour review – this typically takes several weeks – the school hour review cannot commence prior to all boundary changes being confirmed and BusPlanner updated
- ✓ Continue to update planning database with boundary changes as approvals occur
- ✓ Continue review of bus stop loads, bus run loads, etc. based on pre-registered student information
- ✓ Track outstanding or missing information and follow up with respective school board, e.g. program information.

### **May**

- ✓ Continue review of bus stop loads, bus run loads, etc. based on pre-registered student information
- ✓ Start receiving and updating special education student information based on IPRC placements
- ✓ Finalize school hours, report to Administrative Committee

### **June**

- ✓ Boards send out finalized school hours
- ✓ Continue to receive special education student information as IPRC's are ongoing throughout June
- ✓ Continue review of bus stop loads, bus run loads, etc. based on pre-registered student information
- ✓ Final review and confirmation of bus stops, times and loads
- ✓ Final route optimization review
- ✓ Assign routes to bus operators
- ✓

### **July**

- ✓ Dry runs performed by bus operators if required

### **August**

- ✓ Receive recommended changes from bus operators based on dry runs performed
- ✓ Update bus routes accordingly
- ✓ Post finalized bus route information to RCJTC secure website (after all changes made – generally two weeks before school starts)
- ✓ Finalize special education routes and provide to bus companies (mid-August)
- ✓ Send letters to families of students who do not have an OEN

- ✓ Print JK/SK tags for schools
- ✓ Send letters to families identifying stop location and bus times with log on credentials to the secure web site

**Related RCJTC Policies**

*P.01.91 Ridership, Run & Route Review Policy*

*P.06.08 Purchasing Policy*

**Related RCJTC Administrative Procedures**

*AP.06.08.01 Purchasing Procedure*